
वस्त्रादि — प्लेन केलिको करघे के लिए
शटल में उपयोग के लिए सहायक
उपकरण — विशिष्टि

(पहला पुनरीक्षण)

**Textiles — Accessories for Use in
Shuttles for Plain Calico Loom —
Specification**

(*First Revision*)

ICS 59.120.30

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Machinery and Accessories Sectional Committee had been approved by the Textiles Division Council.

This standard was originally published in 1971. The standard has again been revised to incorporate the following changes:

- a) References to Indian Standards have been updated;
- b) Packing clause has been incorporated;
- c) Sampling clause has been incorporated; and
- d) Marking clause has been modified.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — ACCESSORIES FOR USE IN SHUTTLES FOR
PLAIN CALICO LOOM — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements of accessories, such as tip, tongue, plate clip, back spring, reinforcement ring, pot eye, peg and rest pin for use in shuttles for plain calico looms.

2 REFERENCES

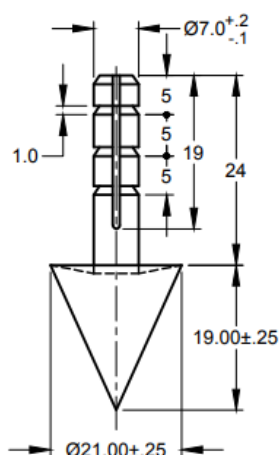
The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

3 REQUIREMENTS

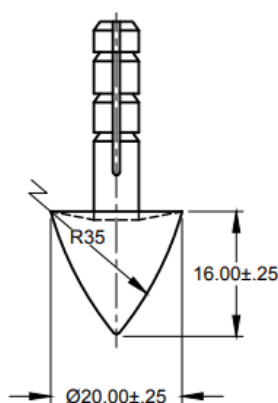
3.1 Tips

Tips shall be made of bright steel rod conforming to the requirements of steel No. C35Mn75 or C45 of schedule II of IS 1570 (Part 2). The tips shall be any of the following three types:

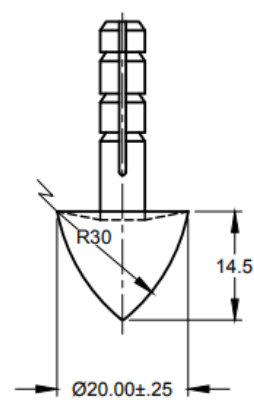
- Sharp (see Fig. 1);
- Half blunt (see Fig. 2); and
- Blunt (see Fig. 3).



All dimensions in millimetres.
FIG. 1 A TYPICAL SHARP TIP



All dimensions in millimetres.
FIG. 2 A TYPICAL HALF BLUNT TIP



All dimensions in millimetres.
FIG. 3 A TYPICAL BLUNT TIP

NOTE — Dimensions of shank of Fig. 2 and Fig. 3 are same as of Fig. 1.

3.1.1 Vickers hardness of approximately two-thirds of the cone (from the tip downwards) should be ranging between 520 and 590 when tested under a load of 30 kgf according to IS 1501 (Part 1).

NOTE — Shank should be softer than the core.

3.2 Tongue

Any of the following types:

- Tongue with single spring (see Fig. 4);
- Tweezer plain tongue (see Fig. 5); and
- Tweezer collared tongue (see Fig. 6) made of mild steel wire.

NOTE — Oil holes on both sides should be provided enabling the user to use tongue on both sides.

3.3 Clip

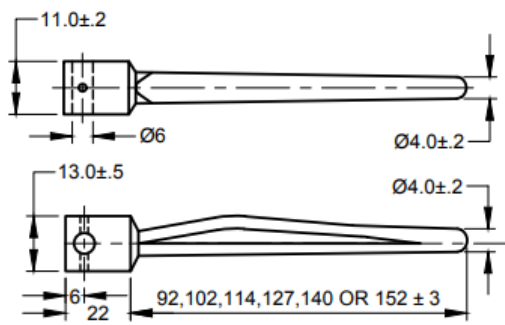
Plate clip (see Fig. 7) or wire clip (see Fig. 8).

3.3.1 Plate Clip

Plate clip shall be made of steel strip 11 mm to 16 mm wide and 1.60 mm (16 SWG) thick.

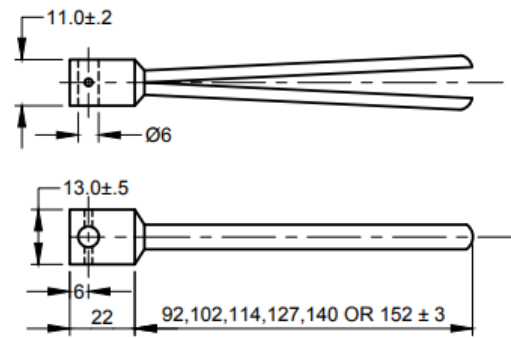
3.3.2 Wire Clip

Wire clip shall be made of steel wire 2.5 mm (12 SWG) thick.



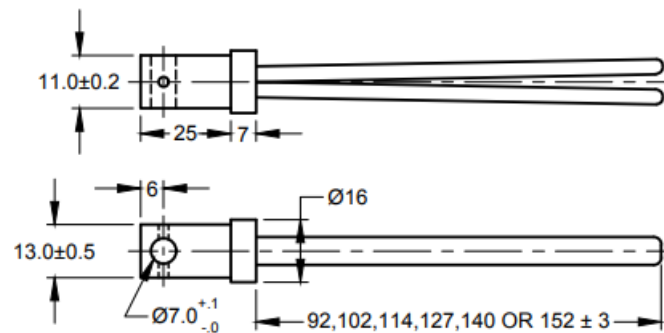
All dimensions in millimetres.

FIG. 4 A TYPICAL TONGUE WITH SPRING



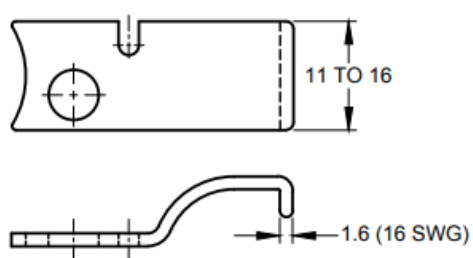
All dimensions in millimetres.

FIG. 5 A TYPICAL TWEEZER PLAIN SINGLE TONGUE



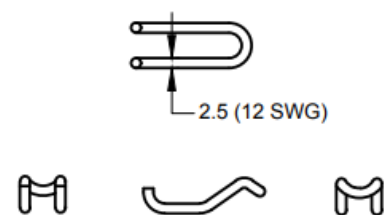
All dimensions in millimetres.

FIG. 6 A TYPICAL TWEEZER COLLARED TONGUE



All dimensions in millimetres.

FIG. 7 A TYPICAL PLATE CLIP

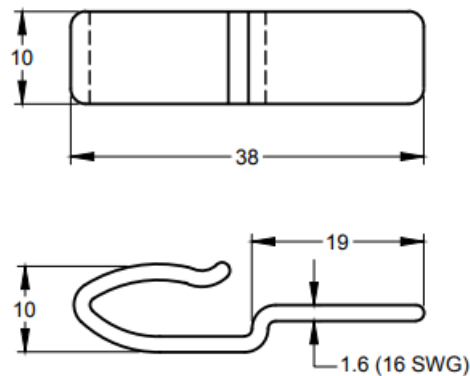


All dimensions in millimetres.

FIG. 8 A TYPICAL WIRE CLIP

3.4 Back Spring

Back spring shall be made of flat spring steel 9.5 mm wide and 1.6 mm (16 SWG) thick (*see* Fig. 9). The hardness of back springs shall be 40 HRC, *Min* when determined by the method prescribed in IS 1586 (Part 1).

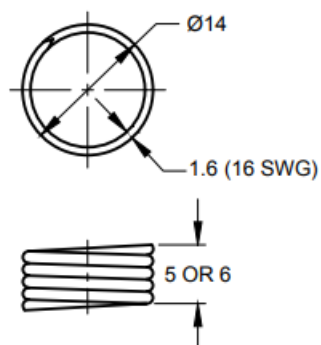


All dimensions in millimetres.

FIG. 9 A TYPICAL BACK SPRING

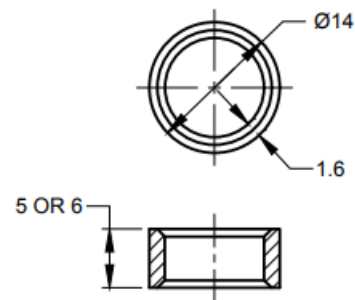
3.5 Reinforcement Ring

Wire ring (*see* Fig. 10) or solid ring with chamfer (*see* Fig. 11).



All dimensions in millimetres.

FIG. 10 A TYPICAL WIRE RING



All dimensions in millimetres.

FIG. 11 A TYPICAL SOLID, RING WITH CHAMFER

NOTE — Reinforcement ring is inserted in the body of the shuttle under the tip.

3.5.1 Wire Ring

Wire ring shall be made of tinned steel wire 1.6 mm (16 SWG) thick.

3.5.2 Solid Ring with Chamfer

Solid ring with chamfer shall be made of mild steel tube having thickness of 1.6 mm (16 SWG).

3.6 Pot Eye

Pot eye shall be made of glazed porcelain with corrugations on outside. The ends of the pot eye shall be rounded (*see* Fig. 12).

3.7 Peg or Pin

3.7.1 Peg

Peg generally made of solid compressed wood or laminated wood.

3.7.2 Pin

Pin made of steel wire of the diameter prescribed by the buyer.

3.8 Rest Pin

Rest pin made of steel wire of the diameter prescribed by the buyer.

NOTE — One end of back spring (*see* 3.4) rests on this pin.

4 SAMPLING

Unless otherwise agreed to between the buyer and the seller, to ascertain the conformity of product(s) to the requirements of this specification, or as specified in IS 2500 (Part 1) shall be followed.

5 MARKING

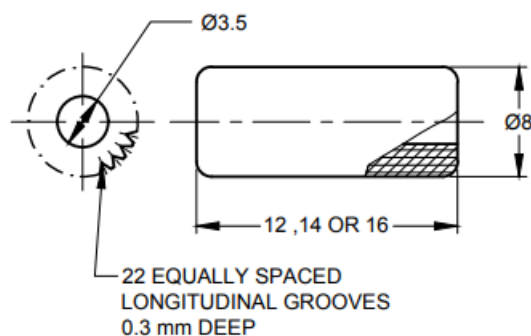
5.1 As far as possible, each item should be marked with the manufacturer's name, Initials or trade-mark.

5.2 BIS Certification Marking

The product conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.

6 PACKING

Product(s) shall be suitably packed as may be agreed to between the concerned parties. The package should contain fixed number of product(s) essentially of the same variety.



All dimensions in millimetres.

FIG. 12 A TYPICAL POT EYE

ANNEX A*(Clause 2)***LIST OF REFERRED STANDARDS**

| <i>IS No.</i> | <i>Title</i> |
|---|---|
| IS 1501 (Part 1) : 2020/ ISO 6507-1 : 2018 | Metallic materials — Vickers hardness test: Part 1 Test method (<i>fifth revision</i>) |
| IS 1570 (Part 2) : 1979 | Schedules for wrought steels: Part 2 Carbon steels (unalloyed steels) (<i>first revision</i>) |
| IS 1586 (Part 1) : 2018/ ISO 6508-1 : 2016 | Metallic materials — Rockwell hardness test: Part 1 Test method (<i>fifth revision</i>) |
| IS 2500 (Part 1) : 2000/ ISO 2859-1 : 1999 | Sampling procedures for inspection by attributes: Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (<i>third revision</i>) |

ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Textile Machinery and Accessories Sectional Committee, TXD 14

| <i>Organization</i> | <i>Representative(s)</i> |
|--|--|
| Central Manufacturing Technology Institute, Bengaluru | DR NAGAHANUMAIAN (Chairperson) |
| Amritlakshmi Machine Works, Mumbai | SHRI N. K. BRAHMACHARI SHRI N. K. RAUT (<i>Alternate</i>) |
| ATE Enterprises Private Limited, New Delhi | SHRI ABHIJIT KULKARNI SHRI ANIL KUMAR SHARMA (<i>Alternate</i>) |
| Bajaj Industries Private Limited, Kolkata | REPRESENTATIVE |
| Bhowmick Calculator, Kolkata | SHRI GOUTAM BHOWMICK SHRI VIVEKANANDA BHOWMICK (<i>Alternate</i>) |
| Central Manufacturing Technology Institute, Bengaluru | SHRI B. R. MOHANRAJ SHRI K. SARAVANAN (<i>Alternate</i>) |
| Confederation of Indian Textile Industry, New Delhi | SHRI AJAY KUMAR |
| Dashmesh Jacquard and Powerloom Private Limited, Panipat | SHRI RAJMEET DHAMMU (<i>Representative</i>) |
| HLL Lifecare Limited, Noida | SHRI AKHIL G. S. SHRI RATNAKAR GUPTA (<i>Alternate</i>) |
| ICAR-Central Institute for Research on Cotton Technology, Mumbai | DR N. SHANMUGAM DR T. SENTHILKUMAR (<i>Alternate</i>) |
| India ITME Society, Mumbai | SHRI PRASHANT MANGUKIA SHRIMATI SEEMA SRIVASTAVA (<i>Alternate</i>) |
| Indian Jute Industries Research Association, Kolkata | SHRIMATI SAUMITA CHOUDHURY SHRI PARTHA SANYAL (<i>Alternate</i>) |
| Indian Jute Mills Association, Kolkata | REPRESENTATIVE |
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| Inspiron Engineering Private Limited, Ahmedabad | SHRI SANJAY KOWARKAR SHRI ANKUR SONI (<i>Alternate</i>) |
| JCB Industries, Guwahati | SHRI DHRUBA SARMA SHRI ABHIJIT BHUYAN (<i>Alternate</i>) |
| Kusters Calico Machinery Limited, Karjan | SHRI DEVANG PARIKH SHRI SHUBHASIS SUR (<i>Alternate</i>) |
| Lakshmi Machine Works Limited, Coimbatore | MS KALPANA A. MS DIVYA V. (<i>Alternate</i>) |
| Laxmi Shuttleless Looms Private Limited, Ahmedabad | SHRI KETAN SANGHVI |
| Ludlow Jute Limited, Kolkata | REPRESENTATIVE |

| <i>Organization</i> | <i>Representative(s)</i> |
|--|--|
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| National Safety Council, Navi Mumbai | SHRI LALIT R. GABHANE SHRI R. R. DEOGHARE (<i>Alternate</i>) |
| Office of the Textile Commissioner, Mumbai | SHRI C. R. KALESAN SHRI JAGRAM MEENA (<i>Alternate</i>) |
| Peass Industrial Engineers Private Limited, Navari | SHRI RAVI S. RAO SHRI JIGNESH B. PATEL (<i>Alternate</i>) |
| Technocraft Industries India Limited, Mumbai | SHRI RAVINDER KUMAR SHRI DURADUNDESHWAR HIREMATH (<i>Alternate</i>) |
| Textile Machinery Manufacturers Association, Mumbai | SHRI M. SHANKAR SHRI PRASHANT MANGUKIA (<i>Alternate</i>) |
| The Bombay Textile Research Association, Mumbai | SHRI VIJAY GAWDE SHRI R. A. SHAIKH (<i>Alternate</i>) |
| The Synthetic and Art Silk Mills Research Association, Mumbai | DR MANISHA MATHUR SHRI SANJAY SAINI (<i>Alternate</i>) |
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| Veermata Jijabai Technological Institute, Mumbai | DR SURANJANA GANGOPADHYAY SHRI S. P. BORKAR (<i>Alternate</i>) |
| BIS Directorate General | SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)] |

Member Secretary
SHRI SWAPNIL
SCIENTIST 'B'/ASSISTANT DIRECTOR
(TEXTILES), BIS

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website- www.bis.gov.in or www.standardsbis.in.

This Indian Standard has been developed from Doc No.: TXD 14 (22423).

Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
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